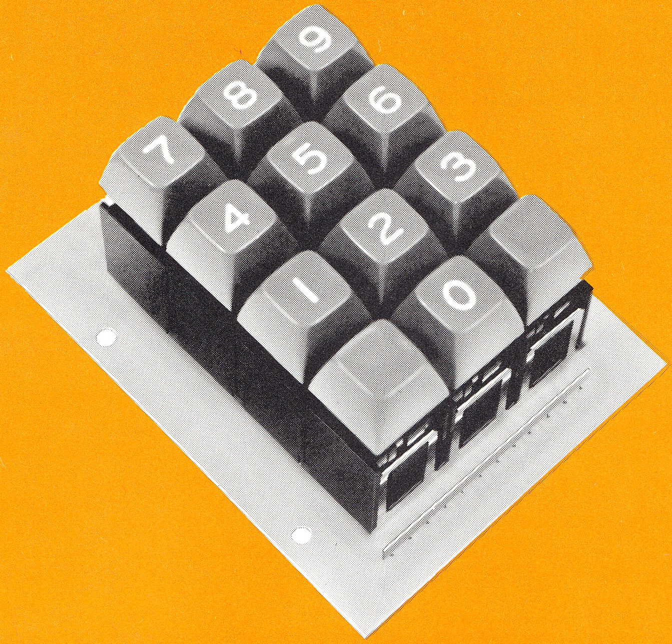
Solid State Numeric Keyboard

Product Sheet 12SW



12SW1-1

Features

- *SOLID STATE KEYS - - - PROVIDES UNMATCHED RELIABILITY AND LONG LIFE*
- *ELECTRICALLY COMPATIBLE - - - EASILY INTERFACED WITH STANDARD LOGIC SYSTEMS*
- *BOUNCE FREE OUTPUT - - - NO BUFFER CIRCUITRY REQUIRED*
- *"OFF-THE-SHELF" AVAILABILITY - - - FOR EVALUATION AND PROTOTYPE USE*

The 12SW1-1 numeric keyboard features our new solid state switches. The only moving part is the switch plunger. To be sure that this part meets the reliability of the rest of the device, it has been manufactured from extremely durable plastic with a large bearing surface.

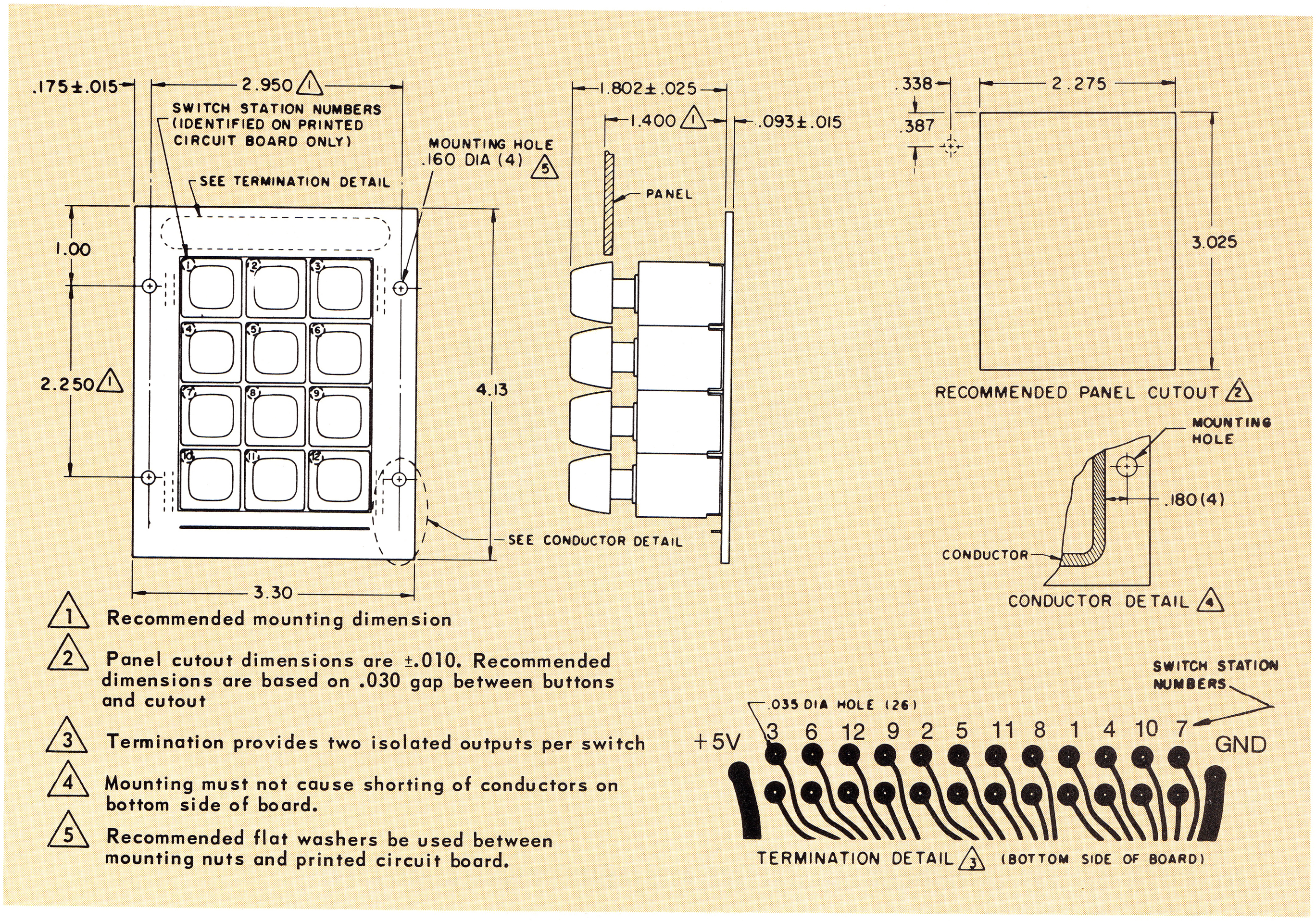
An integrated circuit 0.040-inch square, actuated by a magnet, uses the Hall effect to produce an analog control voltage. Hall voltage is converted into digital output with a trigger circuit and amplifier. Each key module provides two isolated outputs.

Key modules are supported by rigid mounting rails which are riveted to the printed circuit board. The mounting rails are at system ground because the rivets provide connections to the printed circuit ground conductors. Two isolated outputs per key are extended to the top edge of the circuit board and termination holes are provided for soldering wires.

Key outputs may be connected to encoding within your system or used to initiate system functions.

MICRO SWITCH
FREEPORT, ILLINOIS 61032
A DIVISION OF HONEYWELL
IN CANADA: 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO

Specifications


.175±.015
2.950 △1
SWITCH STATION NUMBERS (IDENTIFIED ON PRINTED CIRCUIT BOARD ONLY)
SEE TERMINATION DETAIL
MOUNTING HOLE .160 DIA (4) △5
1.00
2.250 △1
4.13
3.30
SEE CONDUCTOR DETAIL
1
2
3
4
5
6
7
8
9
10
11
12
1.802±.025
1.400 △1
.093±.015
PANEL
.338
.387
2.275
3.025
RECOMMENDED PANEL CUTOUT △2
MOUNTING HOLE
.180 (4)
CONDUCTOR
CONDUCTOR DETAIL △4
SWITCH STATION NUMBERS
.035 DIA HOLE (26)
+5V
3 6 12 9 2 5 11 8 1 4 10 7
GND
TERMINATION DETAIL △3 (BOTTOM SIDE OF BOARD)

△1 Recommended mounting dimension

△2 Panel cutout dimensions are ±.010. Recommended dimensions are based on .030 gap between buttons and cutout

△3 Termination provides two isolated outputs per switch

△4 Mounting must not cause shorting of conductors on bottom side of board.

△5 Recommended flat washers be used between mounting nuts and printed circuit board.

POWER REQUIREMENTS

5 volts DC regulated ±5%
0.180 ampere maximum

OUTPUT CAPACITY

(For each of the two isolated outputs per switch)

Unoperated: 0.25 volts DC maximum with load resistance of 2500 ohms or less.

Operated: 3.15 minimum @ 1 to 10 milliamps current source.

Note: The two switch outputs may be wired in parallel.

OPERATING CHARACTERISTICS

Force at operating point: 3 oz. nominal

Pretravel: 0.125 inch (+0.025 – 0.050)

Total Travel: 0.187 inch nominal

Release Point: 0.040 inch minimum from free position.

KEY SPACING

¾ inch center to center in accordance with best human factors.

KEY ASSIGNMENTS

12 keys in 3 X 4 array legended 0 through 9 and two blank buttons.

WEIGHT

8 ounces (approx)

BUTTONS

MICRO SWITCH double-shot molded truncated buttons, gray with white legends. Other legends and button colors are also available.

TERMINATION BOARD

UL listed glass epoxy NEMA grade G-10

Ordering Information

Contact your nearest MICRO SWITCH Branch Office or write to Freeport. Our Field Engineer will be glad to work with you in satisfying your keyboard requirements for proper selection, pricing, and delivery scheduling. These experienced keyboard experts will provide sound and practical answers to your needs.

84 - 20040- 0 MS - 1 - 69 PRINTED IN U.S.A.

MICRO SWITCH
FREEPORT, ILLINOIS 61032
A DIVISION OF HONEYWELL
IN CANADA: 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO